MATERIAL SAFETY DATA SHEET  
(According to Regulation EC No 1907/2006 - REACH and Regulation EC No 1272/2008 - CLP)  
POLIPROPILENO ISPLEN PR-595 C2M

1. PRODUCT IDENTIFICATION

<table>
<thead>
<tr>
<th>Company: REPSOL QUÍMICA S.A.</th>
<th>Commercial name: POLIPROPILENO ISPLEN PR-595 C2M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address: Pº de la Castellana, 280 28046 - MADRID SPAIN</td>
<td>Chemical name: Polypropylene random copolymer.</td>
</tr>
<tr>
<td>Tel# +34 91 348 80 00</td>
<td>Synonyms: NP</td>
</tr>
<tr>
<td>Fax# +34 91 348 94 94</td>
<td>Molecular formula: ((C_3H_6)_n) ((C_2H_4)_m)</td>
</tr>
<tr>
<td>e-mail address: <a href="mailto:SDSChemicals@repsol.com">SDSChemicals@repsol.com</a></td>
<td>CAS #: NP</td>
</tr>
<tr>
<td>Emergency Telephone #: Tarragona: +34 977 759100</td>
<td>EC (EINECS)#: NP</td>
</tr>
<tr>
<td></td>
<td>Annex I (Dir. 67/548/EEC)#: NP</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>PHYSICAL / CHEMICAL</th>
<th>TOXICITY (SYMPTOMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powder polymer may explode in air in presence of ignition sources such as it occurs with others dusty organic products.</td>
<td><strong>Inhalation:</strong> Powder polypropylene may be irritating to nose and throat. Vapours from melted product may result irritating to the respiratory tract.</td>
</tr>
<tr>
<td>Floats on water. May obstruct sewers and water intakes.</td>
<td><strong>Ingestion/Aspiration:</strong> This route of exposure is easy to avoid, and not frequent. The product has a low toxicity by ingestion.</td>
</tr>
<tr>
<td>It oxidizes in air at high temperatures.</td>
<td><strong>Contact skin/eyes:</strong> Vapours from melted product and powder may be irritating to eyes. Exposure to melted product produces burns.</td>
</tr>
<tr>
<td></td>
<td><strong>General toxic effects:</strong> Powder polypropylene may be irritating to eyes, nose and throat.</td>
</tr>
</tbody>
</table>
3. COMPOSITION

**General composition:** Propylene-ethylene random copolymer with additives.

<table>
<thead>
<tr>
<th>Dangerous components</th>
<th>Range (%)</th>
<th>Classification</th>
<th>S Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dangerous components</td>
<td>Range (%)</td>
<td>Hazard Class-and-Category</td>
<td>Hazard statement</td>
</tr>
<tr>
<td>Reg.(CE) 1272/2008 (CLP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

**Inhalation:** Remove the affected person to fresh air. Administer oxygen if necessary.

**Ingestion/Aspiration:** Not frequent. Intestinal absorption is very low.

**Contact skin/eyes:** In case of melted product burns, cool the liquid material quickly with plenty of water. Do not remove the solidified product without the assistance of medical aid. Call a doctor and treat as a normal hot-burn. If it is necessary flush with large amounts of water for 15 min., holding eyelids open.

**General measures:** Obtain medical attention.

5. FIRE-FIGHTING MEASURES

**Extinguishing agents:** AFFF foam, dry chemicals, CO₂, water spray

**Non suitable extinguishing agents:** Water jet applied directly may disperse the material.

**Combustion products:** Total combustion: CO₂, H₂O. Incomplete combustion: CO, soot, aldehydes, ketones, hydrocarbons and volatile fatty acids.

**Special measures:** NP

**Special hazards:** Melted product may propagate fire. Fire may produce irritating gases.

**Protective equipment:** Heat-resistant suit and gloves. Self-contained breathing apparatus because heavy fumes are produced.
### 6. ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Environmental precautions: Avoid spillages to sewer and drains and dispersion of the product.</th>
<th>Personal precautions: Avoid contact with melted product and inhalation of vapours. Avoid inhalation of powder polymer. Keep unnecessary people away.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleanup methods: Solid spillages should be shovelled into suitable containers to avoid slides.</td>
<td>Personal protection: In presence of powdery polymer use protective mask, in case of high concentrations of vapours from melted product, respiratory protective mask is recommended. Wear goggles and gloves, to avoid direct contact with melted product.</td>
</tr>
</tbody>
</table>

### 7. HANDLING AND STORAGE

#### Handling:

*General precautions:* Do not smoke, drink, or eat during handling. Wear protective clothing. Eliminate all sources of ignition from areas where the material is handled or used, specially in presence of powdery atmosphere. Pneumatic transport equipment should be properly earthed (static charge accumulation by friction).

*Specific conditions:* Good local exhaust ventilation. Protective mask in presence of vapours from melted product and powder polymer.

*Specific Use:* Consult technical information.

#### Storage:

*Temperature and decomposition products:* Not applicable in standard storage conditions.

*Dangerous reactions:* NP

*Storage conditions:* Storage at room temperature and protect it from sunlight, in cool and well ventilated places. Storage in containers properly labelled and sealed. Protect containers from fire. Eliminate all possible sources of ignition. Polymer has a marked tendency to build up static charge when transferred by pipelines, by pneumatic transport, therefore should be properly earthed. Never weld in storage areas without suitable precautions.

*Incompatible materials:* Chlorine, fuming nitric acid and strong oxidizing agents.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Personal protection:**
- *Eye protection:* Safety goggles to avoid splashes from melted product.
- *Respiratory protection:* In presence of vapours and powder polymer protective mask is recommended.
- *Skin protection:* Gloves and appropriate clothing.
- *Other protective equipment:* Eye washers and showers in working area.

**General precautions:** Local exhaust ventilation. Do not smoke and avoid open flames or other ignition sources. Avoid prolonged contact and vapour inhalation.

**Specific hygiene measures:** Good work practices and the adoption of good personal hygiene measures reduce unnecessary exposures. Washing/Showering facilities with a non-solvent based skin cleaner, hot water and soap must be provided and used.

**Exposure controls:** NP

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9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Solid (granules)</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Whitish</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Odourless</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Melting/Freezing point</strong></td>
<td>160 - 170 ºC</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>&gt; 320 ºC</td>
</tr>
<tr>
<td><strong>Autoignition temperature</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>0.902 g/cm³ (ASTM-D-1505)</td>
</tr>
<tr>
<td><strong>Surface tension</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water)</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>Insoluble</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Aromatic solvents at high temperatures.</td>
</tr>
<tr>
<td><strong>Other data</strong></td>
<td>Heat of combustion: 10000 cal/gr</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

**Stability:** Stable material at room temperature. Powder polymer may explode.

**Conditions to avoid:** Avoid direct flames, high temperatures.

**Materials to avoid:** Chlorine, fuming nitric acid and strong oxidizing agents.

**Hazardous decomposition/combustion products:** Decomposition products: At temperatures above 300 °C it decomposes emitting hydrocarbons. Total combustion products: CO₂ and H₂O. Incomplete combustion products: CO, soot, aldehydes, ketones, hydrocarbons and volatile fatty acids.

**Polymerization risk:** NP

**Conditions to avoid:** NP

11. TOXICOLOGICAL INFORMATION

**Routes of exposure:** Inhalation of vapours from melted product and powder polymer. Exposure by ingestion is not probable.

**Acute and chronic effects:** Polypropylene dust and vapours from melted product may be irritating to the respiratory tract. Exposure to melted product produces burns. Chronic effects are unknown.

**Carcinogenicity:**

*International Agency for Research on Cancer (IARC) classification: Group 3 (not classifiable as carcinogenic to humans)*

**Reproductive toxicity:** This chemical has no known mammalian reproductive toxicity.

**Medical conditions which increase hazard to exposure:** NP

12. ECOLOGICAL INFORMATION

**Pollutant potential:**

*Persistence and degradability:* The product has long hydrocarbon insoluble chains. No biodegradation process is known. It is not readily removed from water or soil and has a high persistence environment.

*Mobility/bioaccumulative potential:* No bioaccumulative problems in living organisms or incidence in the trophic food chain.

**Ecotoxicological effects:** There is no data available on the ecotoxicological effects of the product.

13. DISPOSAL CONSIDERATIONS

**Disposal methods (surplus):** Recycling and recovery of the material when possible.

**Waste:**

*Disposal:* Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with afterburner and scrubber.

*Handling:* Labelled and sealed containers.

*Provisions:* Companies which recover, dispose, store, transport or handle waste should comply with Dir. 2008/98/EC on waste or other local, national or community provisions.
14. TRANSPORT INFORMATION

**Special precautions:** Stable at room temperature and during transport. To avoid spilling, transport in secure containers. Use properly sealed containers.

**Additional information:**
- UN Number: NP
- Hazard identification number: NP
- Proper Shipping Name: NP
- ADR/RID: NP
- IATA-DGR: NP
- IMDG: NP

15. REGULATORY INFORMATION

**CLASSIFICATION**
- NP

**LABELLING**
- Symbols: NP
- Phrases R: NP
- Phrases S: NP

**Other regulations:** Propylene-ethylene copolymer (CAS# 9010-79-1) is listed in TSCA Chemical Inventory (EPA).

POLIPROPILENO ISPLEN PR-595 C2M

**Rev.:** 1.0  **Date:** April 18th 2012  **Doc:** 40/1974/6Q.34  **6 de 7**
16. OTHER INFORMATION

Data Bases consulted
EINECS: European Inventory of Existing Commercial Substances.
TSCA: Toxic Substances Control Environmental Protection Agency
RTECS: US Dept. of Health & Human Services

Legislation consulted
Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
Dir. 67/548/EEC about classification, labelling and packaging of dangerous substances (including amendments and adaptations in force).
Dir. 1999/45/EC about classification, labelling and packaging of dangerous preparations (including amendments and adaptations in force).
Dir. 91/689/EEC dangerous waste; Dir. 2008/98/EG waste management.
Dir. 2002/72/EC relating to plastics materials and articles intended to come into contact with foodstuffs.
Royal Decree 363/95: Regulation about notification of new substances and classification, packaging and labelling of dangerous substances.
Royal Decree 255/2003: Regulation about classification, packaging and labelling of dangerous preparations.
Royal Decree 2207/94 about substances used in the manufacture of plastics and coatings intended to come into contact with foodstuffs.
European Agreement concerning the international carriage of dangerous goods by road (ADR).
Regulation on the international transport of dangerous goods on the railway. (RID)
International maritime code of dangerous goods. (IMDG)
International Air Transport Association (IATA) regulation pertaining to air shipment.

Glossary
CAS: Chemical Abstract Service
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists.
TLV: Threshold Limit Value
TWA: Time Weighted Average
STEL: Short-term Exposure Level
REL: Recommendable Exposure Limit
PEL: Permissible Exposure Limit
INSHT: Instituto Nacional de Seguridad e Higiene en el Trabajo
VLA: Valor Límite Ambiental
VLA-EC: Valor Límite Ambiental – Exposición Corta
DNEL/DMEL: Derived no-effect level / Derivation of minimal effects levels
PNEC: Predicted No Effect Concentration
LD_{50}: Lethal Dose Medium
LC_{50}: Lethal Concentration Medium
EC_{50}: Effective Concentration Medium
IC_{50}: Inhibitory Concentration Medium
BOD: Biological Oxygen Demand.
NP: Not Pertinent

The information given in this document has been compiled based on the best existing information sources, latest available knowledge and according to the current requirements on classification, packaging and labelling of hazardous substances. It does not imply the information is exhaustive or accurate in all cases. It is the user’s responsibility to determine the validity of the information contained in this Material Safety Data Sheet to apply depending on the case.